



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,197	09/24/2003	Carl J. Skeps	58695US002	2656

32692 7590 10/06/2004

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

WALLING, MEAGAN S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,197

Applicant(s)

SKEPS ET AL.

Examiner

Meagan S Walling

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 5, 8, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolf (US 4,173,441).

Regarding claim 1, Wolf teaches imaging a sequential portion of the continuously moving web to provide digital information (column 1, lines 62-66), processing the digital information with at least one initial algorithm to identify regions on the web containing anomalies (column 2, lines 3-9), extracting identified regions from the digital information (column 2, lines 10-13), and analyzing the extracted identified regions with at least one subsequent algorithm to determine which anomalies represent actual defects in the moving web (column 2, lines 39-45).

Regarding claim 2, Wolf teaches storing or buffering the identified regions prior to analyzing (column 2, lines 52-55).

Regarding claim 5, Wolf teaches thresholding (column 2, lines 1-3).

Regarding claim 8, Wolf teaches that at least one subsequent algorithm characterizes at least a portion of the web into quality classifications (column 2, lines 5-6).

Regarding claim 14, Wolf teaches imaging a sequential portion of the web to provide digital information (column 1, lines 62-66), processing the digital information with at least one

Art Unit: 2863

initial algorithm to identify regions on the web containing anomalies (column 2, lines 3-9), extracting identified regions from the digital information (column 2, lines 10-13), and analyzing the extracted identified regions with at least one subsequent algorithm to determine which anomalies represent actual defects in the web (column 2, lines 39-45).

Regarding claim 15, Wolf teaches an imaging device for imaging a sequential portion of the continuously moving web to provide digital information (columns 1, lines 62-66), and computational equipment for processing the digital information with an initial algorithm to identify regions on the web containing anomalies (column 2, lines 3-9), then extracting identified regions from the digital information (column 2, lines 10-13), and then analyzing the extracted identified regions with at least one subsequent algorithm to determine which anomalies represent actual defects in the moving web (column 2, lines 39-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of Eichel (US 6,266,437).

Wolf teaches all of the limitations of claims 4, 7, and 9-12 except the limitations that the initial algorithm comprises forming a blob list (current claim 4), that the continuously moving web has a pattern, and the initial algorithm used to process the digital information is capable of

Art Unit: 2863

distinguishing between regions of the web containing perfect pattern from regions of the web containing pattern and also possible defects (current claim 7), that the identified regions contain information, as indicated by size, having at least an order of magnitude less than the digital information (current claim 9), that the subsequent algorithm includes a plurality of steps, wherein each of the plurality of steps comprises comparing each anomaly against a combination threshold-pixel size criterion (current claim 10), that an anomaly is identified as an actual defect if any one of the criteria is satisfied (current claim 11), that at least some anomalies are reported in real time for process monitoring, process control, or both (current claim 12).

Regarding claim 4, Eichel et al. teaches forming a blob list (column 7, lines 30-34).

Regarding claim 7, Eichel et al. teaches that the continuously moving web has a pattern (column 2, lines 16-17), and wherein the initial algorithm uses to process the digital information is capable of distinguishing between regions of the web containing perfect pattern from regions of the web containing pattern and also possible defects (column 2, lines 33-38).

Regarding claim 9, Eichel et al. teaches that the identified regions contain information, as indicated by size, having at least an order of magnitude less than the digital information (column 6, lines 2-4).

Regarding claim 10, Eichel et al. teaches that the subsequent algorithm includes a plurality of steps, wherein each of the plurality of steps comprises comparing each anomaly against a combination threshold-pixel size criterion (column 7, lines 30-33 and column 8, lines 43-45).

Art Unit: 2863

Regarding claim 11, Eichel et al. teaches that an anomaly is identified as an actual defect if any one of the criteria is satisfied (column 9, lines 35-39).

Regarding claim 12, Eichel et al. teaches that at least some anomalies are reported in real time for process monitoring, process control, or both (column 2, line 38).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Wolf with the teachings of Eichel et al. to compare anomalies against threshold-pixel size criterion. The motivation for making this combination would be to accurately locate anomalies by using precise digital information.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of Dalmia et al. (US 6,259,109).

Wolf teaches all the limitations of claim 3 except the limitations that the stored or buffered information is analyzed after the imaging has been performed on the entire web (current claim 3).

Regarding claim 3, Dalmia et al. teaches storing the recorded image of the web and playing it back for analysis after recording is complete (see abstract).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Wolf with the teachings of Dalmia et al. to store the identified regions prior to analyzing. The motivation for making this combination would be to play back the stored image at a slower speed for easier inspection (Dalmia et al., column 1, lines 49-51).

Art Unit: 2863

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of Floeder et al. (US 2002/0110269).

Wolf teaches all the limitations of claim 6 except the limitation that the continuously moving web is unpatterned.

Wolf teaches locating defects on unpatterned polymeric films (see paragraph 47, lines 1-4).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Eichel et al. with the teachings of Floeder et al. to find defects in unpatterned webs. The motivation for making this combination would be to find defects in all types of materials and to not limit defect detection to patterned webs.

Allowable Subject Matter

Claim 13 is allowed.

The following is an examiner's statement of reasons for allowance: Please see previous office action for reasons for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2863

Response to Arguments

Applicant's arguments with respect to claims 1-12, 14, and 15 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msw


John Barlow
Supervisory Patent Examiner
Technology Center 2800